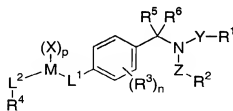


We claim:

1. A compound represented by the structural formula:



or a pharmaceutically acceptable salt or solvate thereof; wherein:

R^1 is selected from the group consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, haloalkyl, $-N(R^7)_2$, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloheteroalkyl, substituted or unsubstituted aryl, and substituted or unsubstituted heteroaryl, wherein the term "substituted" means being substituted with $(X)_p$;

R^2 is selected from the group consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, haloalkyl, $-N(R^7)_2$, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloheteroalkyl, substituted or unsubstituted aryl, and substituted or unsubstituted heteroaryl, wherein the term "substituted" means being substituted with $(X)_p$;

R^3 is selected from the group consisting of alkyl, heteroalkyl, aryl, heteroaryl, Br, Cl, F, CF_3 , OCF_2H , OCF_3 , and alkoxy, wherein R^3 can be the same or different and is independently selected when $n > 1$;

R^4 is selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloheteroalkyl, substituted or unsubstituted aryl, and substituted or unsubstituted heteroaryl, wherein the term "substituted" means being substituted with $(X)_p$;

R^5 and R^6 , which can be the same or different, are independently selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloheteroalkyl, substituted or unsubstituted aryl, and substituted or

unsubstituted heteroaryl, wherein the term "substituted" means being substituted with (X)_p;

R⁷ is selected from the group consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, haloalkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloheteroalkyl, substituted or unsubstituted aryl, and substituted or unsubstituted heteroaryl, or two R⁷ groups can form a ring of 4-7 carbon atoms, wherein the term "substituted" means being substituted with (X)_p;

L¹ is selected from the group consisting of -C(R²)₂-, -C(O)-, -(CH(OR²))- , -S(O₂)-, -S(O)-, -S-, -O-, -N(R²)-, -C(O)N(H)-, -N(H)C(O)-, -CF₂-, -CH=N-O-R² and -CH(NHOR²)-

L² is selected from the group consisting of a covalent bond, -CH₂-, -CH(CH₃)-, -C(CH₃)₂-, -CH=N-O-R²-, -S(O₂)-, -S(O)-, -S-, -C(O)-, -O-, -N(R²)-, -C(O)N(H)- and -N(H)C(O)-;

M is a heteroaryl moiety;

n is 0-4;

p is 0-5;

X can be the same or different and is selected from the group consisting of Br, Cl, F, CF₃, OH, OCF₂H, OCF₃, alkoxy, alkyl, cycloalkyl, -O-cycloalkyl, heteroalkyl, -C(O)N(R⁷)₂-, -S(O₂)R², and -OS(O₂)R², wherein X is independently selected when p > 1;

Y is selected from the group consisting of a covalent bond, -CH₂-, -S(O₂)-, and -C(O)-; and

Z is selected from the group consisting of a covalent bond, -CH₂-, -S(O₂)-, and -C(O)-, with the following provisos:

when L² is a covalent bond, M is directly linked to R⁴;

when Y is a covalent bond, R¹ is directly linked to the nitrogen atom shown in formula I; and

when Z is a covalent bond, R² is directly linked to the nitrogen atom shown in formula I.

2. A compound according to claim 1, wherein L^1 is $-S(O_2)-$, $-CH_2-$ or $-CH(OH)-$.

3. A compound according to claim 1, wherein L^2 is $-S(O_2)-$

4. A compound according to claim 1, wherein Y is $-S(O_2)-$ or $-C(O)-$.

5. A compound according to claim 1, wherein R^1 is CH_3 or CF_3 .



6. A compound according to claim 1, wherein R^5 and R^6 , which can be the same or different, are H or CH_3 .

7. A compound according to claim 1, wherein n is 0.

8. A compound according to claim 1, wherein X is Cl.

9. A compound according to claim 1, wherein M is selected from the group consisting of indolyl, benzofuranyl, dihydrobenzofuranyl, furanyl, thienyl, pyridinyl, aryl and pyridinyl-N-oxide.


















10. A compound according to claim 1, wherein Z is a covalent bond, n is 0, R^2 is H, and R^1 , R^4 , R^5 , R^6 , M, L^1 , L^2 , p, Y and X are defined in the following table:


















| # | R^1 | R^5 , R^6 | R^4 (with linking point to L^3) | M (with linking points to L^1 , L^2 and X) | L^1 | L^2 | Y | p, X |
|---|--------|------------------|---|---|------------|------------|------------|---------|
| 1 | CH_3 | CH_3 , H |  |  | $-S(O_2)-$ | $-S(O_2)-$ | $-S(O_2)-$ | 0 |




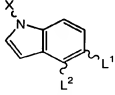












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|---|-----------------|------------------------|--|--|----------------------|----------------------|----------------------|----------|
| 2 | CF ₃ | CH ₃ , H | | | -S(O ₂)- | -S(O ₂)- | -C(O)- | 0 |
| 3 | CF ₃ | CH ₃ , H | | | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 4 | CF ₃ | CH ₃ , H | | | -S(O ₂)- | -S(O ₂)- | -C(O)- | 0 |
| 5 | CH ₃ | H, H | | | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 6 | CH ₃ | CH ₃ , H | | | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 1, Cl |
| 7 | CF ₃ | CH ₃ , H | | | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 1, Cl |
| 8 | CH ₃ | CH ₃ , H | | | -CH ₂ - | -S(O ₂)- | -S(O ₂)- | 0 |
| 9 | CF ₃ | CH ₃ , H | | | -CH- OH | -S(O ₂)- | -C(O)- | 0 |

| | | | | | | | | |
|----|-----------------|------------------------|--|--|----------------------|----------------------|----------------------|---------|
| 10 | CF ₃ | CH ₃ , H | | | -CH ₂ - | -S(O ₂)- | -C(O)- | 0 |
| 11 | CF ₃ | CH ₃ , H | | | -CH ₂ - | -S(O ₂)- | -C(O)- | 0 |
| 12 | CH ₃ | H, H | | | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 1, F |
| 13 | CH ₃ | H, H | | | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 14 | CF ₃ | CH ₃ , H | | | -S(O ₂)- | -S(O ₂)- | -C(O)- | 0 |
| 15 | CF ₃ | CH ₃ , H | | | -S(O ₂)- | -S(O ₂)- | -C(O)- | 0 |
| 16 | CF ₃ | CH ₃ , H | | | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 17 | CF ₃ | CH ₃ , H | | | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 18 | CF ₃ | CH ₃ , H | | | -CH- OH | -S(O ₂)- | -C(O)- | 0 |










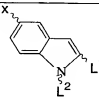





| | | | | | | | | |
|----|-----------------|--------------------------------------|--|--|----------------------|----------------------|----------------------|---|
| 19 | CF ₃ | CH ₃ , H | | | -CH ₂ - | -SO ₂ - | -SO ₂ - | 0 |
| 20 | CF ₃ | CH ₃ , H | | | -CH ₂ - | -S(O ₂)- | -C(O)- | 0 |
| 21 | CH ₃ | CH ₃ , H | | | -CH ₂ - | -S(O ₂)- | -S(O ₂)- | 0 |
| 22 | CF ₃ | CH ₃ , H | | | -CH ₂ - | -S(O ₂)- | -S(O ₂)- | 0 |
| 23 | CF ₃ | CH ₃ , H | | | -CH ₂ - | -S(O ₂)- | -C(O)- | 0 |
| 24 | CH ₃ | CH ₃ , CH ₃ | | | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 25 | CH ₃ | H, H | | | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 26 | CF ₃ | CH ₃ , CH ₃ | | | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 27 | CF ₃ | CH ₃ , H | | | -S(O ₂)- | -S(O ₂)- | -C(O)- | 0 |
| 28 | CH ₃ | H, H | | | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |

| | | | | | | | | |
|----|-----------------|--------------------------------------|---|---|---|----------------------|----------------------|---|
| 29 | CH ₃ | H, H |  |  | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 30 | CH ₃ | CH ₃ , H |  |  | -CH ₂ - | -S(O ₂)- | -S(O ₂)- | 0 |
| 31 | CF ₃ | H, H |  |  | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 32 | CF ₃ | CH ₃ , H |  |  | -C(O)- | -S(O ₂)- | -C(O)- | 0 |
| 33 | CF ₃ | CH ₃ , H |  |  |  | -S(O ₂)- | -C(O)- | 0 |
| 34 | CH ₃ | CH ₃ , H |  |  | -C(O)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 35 | CF ₃ | CH ₃ , CH ₃ |  |  | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 36 | CF ₃ | CH ₃ , H |  |  | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |

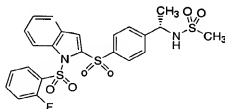
| | | | | | | | | |
|----|-----------------|------------------------|---|---|---|----------------------|----------------------|----------|
| 37 | CH ₃ | CH ₃ , H |  |  | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 38 | CH ₃ | CH ₃ , H |  |  |  | -O- | -S(O ₂)- | 0 |
| 39 | | H, H |  |  | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 40 | CF ₃ | H, H |  |  | -S(O ₂)- | -S(O ₂)- | -C(O)- | 0 |
| 41 | CF ₃ | CH ₃ , H |  |  | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 1, Cl |
| 42 | CH ₃ | H, H |  |  | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 43 | CF ₃ | CH ₃ , H |  |  | -C(O)- | -S(O ₂)- | -C(O)- | 0 |
| 44 | CH ₃ | CH ₃ , H |  |  | -C(O)- | -S(O ₂)- | -S(O ₂)- | 0 |

| | | | | | | | | |
|----|-----------------|------------------------|--|--|----------------------|----------------------|----------------------|---------|
| 45 | CH ₃ | CH ₃ , H |  |  | -CH ₂ - | -O- | -S(O ₂)- | 0 |
| 46 | CF ₃ | CH ₃ , H |  |  | -SO ₂ - | -SO- | -C(O)- | CH 3 |
| 47 | CF ₃ | CH ₃ , H |  |  | -CH ₂ - | -S(O ₂)- | -C(O)- | 0 |
| 48 | CF ₃ | CH ₃ , H |  |  | -C(O)- | -O- | -C(O)- | 0 |
| 49 | CF ₃ | H, H |  |  | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 50 | CF ₃ | H, H |  |  | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 51 | CF ₃ | CH ₃ , H |  |  | -S(O ₂)- | -C(O)- | -C(O)- | 0 |
| 52 | CF ₃ | CH ₃ , H |  |  | -C(O)- | -S- | -C(O)- | 0 |

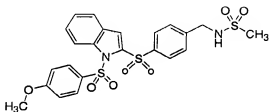
| | | | | | | | | |
|----|-----------------|------------------------|--|--|----------------------|----------------------|----------------------|----------|
| 53 | CH ₃ | CH ₃ , H | | | -C(O)- | -S- | -S(O ₂)- | 0 |
| 54 | CF ₃ | H, H | | | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 55 | CH ₃ | H, H | | | -S(O ₂)- | -CH ₂ - | -S(O ₂)- | 1, F |
| 56 | CH ₃ | CH ₃ , H | | | -C(O)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 57 | CH ₃ | CH ₃ , H | | | | -S(O ₂)- | -S(O ₂)- | 0 |
| 58 | CH ₃ | CH ₃ , H | | | -S(O ₂)- | -CH ₂ - | -S(O ₂)- | 0 |
| 59 | CH ₃ | CH ₃ , H | | | -C(O)- | -O- | -S(O ₂)- | 0 |
| 60 | CH ₃ | CH ₃ , H | | | -S(O ₂)- | -C(O)- | -S(O ₂)- | 1, Cl |

| | | | | | | | | |
|----|---|------------------------|---|---|----------------------|----------------------|----------------------|---------|
| 61 | | H, H |  |  | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 62 | | H, H |  |  | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 63 | CF ₃ | H, H |  |  | -S(O ₂)- | -S(O ₂)- | -S(O ₂)- | 0 |
| 64 | CF ₃ | CH ₃ , H |  |  | -S(O ₂)- | -S- | -C(O)- | 0 |
| 65 | CF ₃ | H, H |  |  | -S(O ₂)- | -CH ₂ - | -S(O ₂)- | 1, F |
| 66 |  | CH ₃ , H |  |  | -S(O ₂)- | -CH ₂ - | -CH ₂ - | F |
| 67 | CF ₃ | CH ₃ , H |  |  | -S(O ₂)- | -S(O ₂)- | -C(O)- | F |

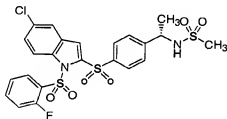
11. The compound according to claim 1 having the following formula:



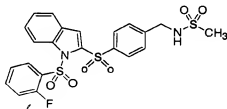
12. The compound according to claim 1 having the following formula:



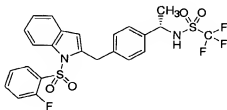
13. The compound according to claim 1 having the following formula:



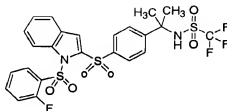
14. The compound according to claim 1 having the following formula:



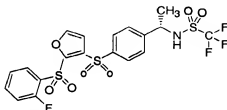
15. The compound according to claim 1 having the following formula:



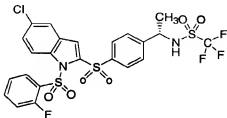
16. The compound according to claim 1 having the following formula:



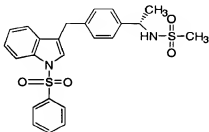
17. The compound according to claim 1 having the following formula:



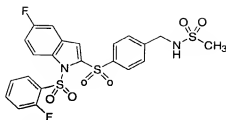
18. The compound according to claim 1 having the following formula:



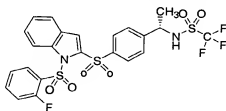
19. The compound according to claim 1 having the following formula:



20. The compound according to claim 1 having the following formula:

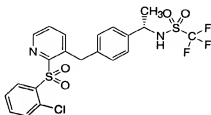


21. The compound according to claim 1 having the following formula:

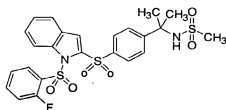


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22. The compound according to claim 1 having the following formula:

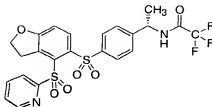


23. The compound according to claim 1 having the following formula:

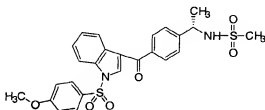


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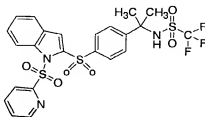
24. The compound according to claim 1 having the following formula:



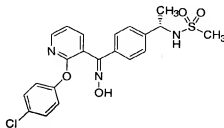
25. The compound according to claim 1 having the following formula:



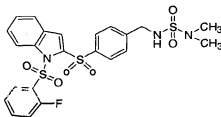
26. The compound according to claim 1 having the following formula:



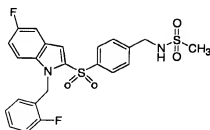
27. The compound according to claim 1 having the following formula:



28. The compound according to claim 1 having the following formula:



29. The compound according to claim 1 having the following formula:



30. The compound according to claim 1 wherein said alkyl is in the various definitions of lower alkyl.

31. A pharmaceutical composition comprising one or more compounds according to claim 1.

32. The pharmaceutical composition according to claim 31, further comprising one or more pharmaceutically acceptable carriers.

33. A method of preparing the pharmaceutical composition of claim 32, said method comprising contacting said one or more compounds of formula I with said one or more pharmaceutically acceptable carriers.

34. A method of stimulating cannabinoid CB_2 receptors in a patient comprising administering to a patient having CB_2 receptors a CB_2 receptor stimulating amount of one or more compounds according to Claim 1.

35. A method of treating cancer, inflammatory diseases, immunomodulatory diseases, or respiratory diseases comprising administering to a patient in need of such treatment one or more compounds according to claim 1.

36. The method of treating cancer, inflammatory diseases, immunomodulatory diseases, or respiratory diseases according to claim 35, wherein the amount of compound 1 that is administered is a therapeutically effective amount.

37 The method of treating cancer, inflammatory diseases, immunomodulatory diseases or respiratory diseases according to claim 35, wherein said cancer, inflammatory diseases, immunomodulatory diseases or respiratory diseases are one or more diseases selected from the group consisting of cutaneous T cell lymphoma, rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis, glaucoma, diabetes, osteoporosis, renal ischemia, myocardial infarction, cerebral stroke, cerebral ischemia, nephritis, hepatitis, glomerulonephritis, cryptogenic fibrosing aveolitis, psoriasis, atopic dermatitis, vasculitis, allergy, seasonal allergic rhinitis, Crohn's disease, inflammatory bowel disease, reversible airway obstruction, adult respiratory distress syndrome, asthma, chronic obstructive pulmonary disease (COPD) and bronchitis.

38. The method of treating cancer, inflammatory diseases, immunomodulatory diseases or respiratory diseases according to claim 35, further comprising co-administering or combining the compound of claim 1 with one or more second agents which can be the same or different, and are independently selected from the group consisting of *DMARDS*, *NSAIDS*, *COX-2* inhibitors, *COX-1* inhibitors, immunosuppressives, and BRMs.

39. The method of treating cancer, inflammatory diseases, immunomodulatory diseases or respiratory diseases according to claim 38, wherein said *DMARDS* can be the same or different and are independently selected from the group consisting of methotrexate, azathioprine, leflunomide, pencillinamine, gold salts, mycophenolate mofetil, and cyclophosphamide.

40. The method of treating cancer, inflammatory diseases, immunomodulatory diseases or respiratory diseases according to claim 38, wherein

said NSAIDS can be the same or different and are independently selected from the group consisting of piroxicam, naproxen, indomethacin and ibuprofen.

41. The method of treating cancer, inflammatory diseases,
immunomodulatory diseases or respiratory diseases according to claim 38, wherein
said COX-1 inhibitor is Piroxicam.

42. The method of treating cancer, inflammatory diseases,
immunomodulatory diseases or respiratory diseases according to claim 38, wherein
said COX-2 selective inhibitor is refecoxib or celecoxib.

43. The method of treating cancer, inflammatory diseases,
immunomodulatory diseases or respiratory diseases according to claim 38, wherein
said immunosuppressives can be the same or different and are independently
selected from the group consisting of steroids, cyclosporine, Tacrolimus or rapamycin.

44. The method of treating cancer, inflammatory diseases,
immunomodulatory diseases or respiratory diseases according to claim 38, wherein
said BRMs can be the same or different and are independently selected from the
group consisting of etanercept, infliximab, IL-1 antagonists, anti-CD40, anti-CD28, IL-
10, and anti-adhesion molecules.

45. The method of treating cancer, inflammatory diseases,
immunomodulatory diseases or respiratory diseases according to claim 38, wherein
said anti-inflammatory agents can be the same or different and are independently
selected from the group consisting of p38 kinase inhibitors, PDE4 inhibitors, TACE
inhibitors, chemokine receptor antagonists, and Th2/Th1 modulators.

46. The method of treating cancer, inflammatory diseases,
immunomodulatory diseases or respiratory diseases according to claim 35, further
comprising co-administering or combining the compound of claim 1 with a second
agent selected from the group consisting of Anaprox, Arava, Arthrotec, Azulfidine,

Aspirin, Cataflam, Celestone Soluspan, Clinoril, Cortone Acetate, Cuprimine, Daypro, Decadron, Depen, Depo-Medrol, Disalcid, Dolobid, Naprosyn, Gengraf, Hydrocortone, Imuran, Indocin, Lodine, Motrin, Myochrysine, Nalfon, Naprelan, Neoral, Orudis, Oruvail, Pediapred, Plaquenil, Prelone, Relafen, Solu-Medrol, Tolectin, Trilisate and Volataren.

47. The method of treating cancer, inflammatory diseases, immunomodulatory diseases or respiratory diseases according to claim 35, wherein said administration is oral or subcutaneous.

48. A method of treating multiple sclerosis comprising co-administering or combining with the compound of claim 1 one or more additional agents which may be the same or different and are independently selected from the group consisting of Interferon B1a, Interferon B1b and glatiramer acetate.

49. A kit for treating cancer, inflammatory diseases, immunomodulatory diseases, and respiratory diseases comprising in one or more containers an active compound for stimulating cannabinoid CB₂ receptors in a patient which comprises in one or more containers, one or more compounds according to claim 1 in one or more pharmaceutically acceptable carriers.